

REMARKS

In response to the official action:

Drawing. The Examiner objected to the drawing for reference numeral 10 denoting both a sample and a sample chamber. The specification is amended at page 9 to correct a typographic error which is understood to be the basis of the objection to the drawing. Withdrawal of the objection is requested.

§ 112, First Paragraph. Claims 2, 9-11, and 20-22 are rejected under 35 U.S.C. §112, first paragraph, as not enabling a person to make or use the invention. This rejection is respectfully traversed for the record.

The Examiner stated that “inverse number rate of the frequency” in claim 2 was not understandable. Claim 2 (and also claim 1) is amended to recite “period” in place of “frequency.” As the Examiner is aware, an inverse of a frequency is a period. As to “inverse number,” this is believed to be plain on its face, i.e., it denotes the inverse of a number. Thus, if a frequency is, for example, 3000 Hz (i.e., 3000 cycles per second, or, 3000 sec⁻¹) then the inverse number of the frequency is 1/3000 or 0.00033 and the period (number plus unit) is 1/3000 sec or 0.00033 sec.

It follows that a recitation of “frequency” is just a different way of reciting “period.” Thus, the original claim is respectfully believed to have been definite, but the clarity of the recitation is now increased.

The word “frequency” occurs in the Detailed Description, at page 13, line 22, referring to equation (1), which relates the capturing timing of the scintillator, T, to an initial value of the capturing timing of the scintillator, t₁. The paragraph at page 13, lines 19-22 explains that “T becomes small, and ... frequency becomes high.” Thus the frequency is related to the period in the specification.

Now regarding claim 9, the Examiner states that t_1 , FOV1 and FOV2 are not defined and wonders if they are arbitrary, or determined by experiment. The Applicants answer that FOV1 and FOV2 are “ranges” that are chosen depending on the desired magnification. The Examiner is referred to the paragraphs at page 12, lines 15 and 34, and the fact that the examples at page 13, lines 11-18 relate to the area 45 shown in Figs. 6A and 6B. The time t_1 is the time required for one complete sweep of the electron beam in the horizontal direction, in the example given in the specification.

§ 102(b). Claims 1-7 and 12-18 are rejected under 35 U.S.C. §102 as being anticipated by Otaka (U.S. Patent 5,412,209). This rejection is respectfully traversed.

Otaka does not disclose the subject now more clearly recited in claims 1 and 12.

The cited passage at column 12, lines 25-38 typifies the prior art already discussed by the Applicants in their disclosure: “Imaging magnification ... is adjusted by changing the scanning width,” writes Otaka there. The phrase “predetermined time” at column 12, line 33 refers to the time spent imaging at a lower magnification (e.g., a time on the order of seconds) and does not refer to the scan time (e.g., a millionth of a second).

The cited passage at column 8, lines 55-58 states that a scanning frequency producing 30 frames per second is preferably, to match the 30 frames per second of television. There is no disclosure of detecting electrons during only a portion of a scan sweep.

The cited passage at column 5, line 33 to column 6, line 50 discusses the structure, not the beam sweep dynamics.

§ 103(a). Claims 8-11 and 19-25 are rejected under 35 U.S.C. §103 as being unpatentable over Otaka in view of Nakagaki (U.S. Patent 6,476,388). This rejection is respectfully traversed.

Otaka does not disclose adjusting the ratio of ranges (aspect ratio) of a scanned area, as is recited in independent claims 9 and 20, and the Examiner relies on Nakagaki for disclosing first and second ranges. Nakagaki discloses locating defects and automatically obtaining magnified

images of the defects at first and second positions (i.e., first and second coordinate). This is set out at column 12, line 53 *ff.*

There is no disclosure of adjusting the ratio of ranges when the magnification is changed. However, the Examiner writes: "It is obvious that the first and second positions can be viewed as first and second scanning ranges." The Applicants respectfully disagree, because scanning ranges are not the same thing as scanning positions. There is no connection between the center position of an image and its magnification, and, with respect, they cannot be viewed as the same thing.

In view of the aforementioned amendments and accompanying remarks, the claims are believed to be in condition for allowance. Withdrawal of the rejection and allowance of all claims is requested.

Respectfully submitted,

ARMSTRONG, WESTERMAN & HATTORI, LLP



Nick Bromer
Registration No. 33,478
(717) 426-1664, voice and fax

Address: Atty. Docket 010391
Armstrong, Westerman & Hattori, LLP
1725 K Street, NW
Suite 1000
Washington, DC 20006

Tel. No.: Armstrong, Westerman (202) 659-2930, voice; (202) 887-0357, fax

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